PG/10

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/509,422 CRF Edit Date: 10/6/04
Edited by: JM

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

J ___ Corrected the SEQ ID NO. Sequence numbers edited were:

3,4

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

___ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other:

PCT

RAW SEQUENCE LISTING DATE: 10/06/2004
PATENT APPLICATION: **US/10/509,422** TIME: 16:26:11

Input Set : **A:\pto.amc.TXT**
Output Set: **N:\CRF4\10062004\J509422.raw**

<110> APPLICANT: Liou, Simon
<120> TITLE OF INVENTION: Human BMP2 Inducible Kinases
<130> FILE REFERENCE: 004974.01015
C--> **<140> CURRENT APPLICATION NUMBER: US/10/509,422**
C--> **<141> CURRENT FILING DATE: 2004-09-24**
<150> PRIOR APPLICATION NUMBER: PCT/EP03/080825
<151> PRIOR FILING DATE: 2003-03-20
<150> PRIOR APPLICATION NUMBER: US 60/367,512
<151> PRIOR FILING DATE: 2002-03-27
<150> PRIOR APPLICATION NUMBER: US 60/406,936
<151> PRIOR FILING DATE: 2002-08-30
<160> NUMBER OF SEQ ID NOS: 9
<170> SOFTWARE: FastSEQ for Windows Version 4.0
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<211> LENGTH: 3507
<212> TYPE: DNA
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58 cagcaggctt tctttcaaca gcagatgcta gctcaacatc agccgtctca acaacaggca    1680
59 tcacctgaat atcttacctc ccctcaagag ttctcaccag ccttagtttc ctacacttca    1740
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61 tttttccagt cagttgctga taaagaggcc attgcaaatt tcacaaatca gaagaacatc    1860
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63 acagaagagg aactattgga cagagaattt gaccttctaa gatcaaatag gctcgaggag    1980
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84 gataggggga atgtcttaca acctgaggag agcctgttgg acccccttcgg tgccaagccc    3240
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87 agtgcagatg tattgaaaat ggatgatttt ggtgccgtgc cctttacaga acttgtggtg    3420
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92 <211> LENGTH: 1168
93 <212> TYPE: PRT
94 <213> ORGANISM: Homo sapiens
96 <400> SEQUENCE: 2
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99 Gly Ala Ala Gly Gly Gly Ala Gly Gly Ala Gly Ala Gly Ala Gly Cys
100             20                  25                  30
101 Gly Ser Gly Gly Ser Ser Val Gly Val Arg Val Phe Ala Val Gly Arg
102         35                  40                  45
103 His Gln Val Thr Leu Glu Glu Ser Leu Ala Glu Gly Gly Phe Ser Thr
104     50                  55                  60
105 Val Phe Leu Val Arg Thr His Gly Gly Ile Arg Cys Ala Leu Lys Arg
106 65                  70                  75                  80
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PATENT APPLICATION: US/10/509,422 TIME: 16:26:11

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109 Thr Ile Met Lys Glu Leu Ser Gly His Lys Asn Ile Val Gly Tyr Leu
110             100                 105                 110
111 Asp Cys Ala Val Asn Ser Ile Ser Asp Asn Val Trp Glu Val Leu Ile
112         115                 120                 125
113 Leu Met Glu Tyr Cys Arg Ala Gly Gln Val Val Asn Gln Met Asn Lys
114     130                 135                 140
115 Lys Leu Gln Thr Gly Phe Thr Glu Pro Glu Val Leu Gln Ile Phe Cys
116 145                 150                 155                 160
117 Asp Thr Cys Glu Ala Val Ala Arg Leu His Gln Cys Lys Thr Pro Ile
118                 165                 170                 175
119 Ile His Arg Asp Leu Lys Val Glu Asn Ile Leu Leu Asn Asp Gly Gly
120             180                 185                 190
121 Asn Tyr Val Leu Cys Asp Phe Gly Ser Ala Thr Asn Lys Phe Leu Asn
122         195                 200                 205
123 Pro Gln Lys Asp Gly Val Asn Val Val Glu Glu Glu Ile Lys Lys Tyr
124     210                 215                 220
125 Thr Thr Leu Ser Tyr Arg Ala Pro Glu Met Ile Asn Leu Tyr Gly Gly
126 225                 230                 235                 240
127 Lys Pro Ile Thr Thr Lys Ala Asp Ile Trp Ala Leu Gly Cys Leu Leu
128                 245                 250                 255
129 Tyr Lys Leu Cys Phe Phe Thr Leu Pro Phe Gly Glu Ser Gln Val Ala
130             260                 265                 270
131 Ile Cys Asp Gly Asn Phe Thr Ile Pro Asp Asn Ser Arg Tyr Ser Arg
132         275                 280                 285
133 Asn Ile His Cys Leu Ile Arg Phe Met Leu Glu Pro Asp Pro Glu His
134     290                 295                 300
135 Arg Pro Asp Ile Phe Gln Val Ser Tyr Phe Ala Phe Lys Phe Ala Lys
136 305                 310                 315                 320
137 Lys Asp Cys Pro Val Ser Asn Ile Asn Asn Ser Ser Ile Pro Ser Ala
138                 325                 330                 335
139 Leu Pro Glu Pro Met Thr Ala Ser Glu Ala Ala Ala Arg Lys Ser Gln
140             340                 345                 350
141 Ile Lys Ala Arg Ile Thr Asp Thr Ile Gly Pro Thr Glu Thr Ser Ile
142         355                 360                 365
143 Ala Pro Arg Gln Arg Pro Lys Ala Asn Ser Ala Thr Thr Ala Thr Pro
144     370                 375                 380
145 Ser Val Leu Thr Ile Gln Ser Ser Ala Thr Pro Val Lys Val Leu Ala
146 385                 390                 395                 400
147 Pro Gly Glu Phe Gly Asn His Arg Pro Lys Gly Ala Leu Arg Pro Gly
148                 405                 410                 415
149 Asn Gly Pro Glu Ile Leu Leu Gly Gln Gly Pro Pro Gln Gln Pro Pro
150             420                 425                 430
151 Gln Gln His Arg Val Leu Gln Gln Leu Gln Gln Gly Asp Trp Arg Leu
152         435                 440                 445
153 Gln Gln Leu His Leu Gln His Arg His Pro His Gln Gln Gln Gln Gln
154     450                 455                 460
155 Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
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PATENT APPLICATION: US/10/509,422 TIME: 16:26:11

Input Set : A:\pto.amc.TXT
Output Set: N:\CRF4\10062004\J509422.raw

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157 Gln Gln Gln Gln Gln Gln His His His His His His His His Leu Leu
158                 485                 490                 495
159 Gln Asp Ala Tyr Met Gln Gln Tyr Gln His Ala Thr Gln Gln Gln Gln
160             500                 505                 510
161 Met Leu Gln Gln Gln Phe Leu Met His Ser Val Tyr Gln Pro Gln Pro
162         515                 520                 525
163 Ser Ala Ser Gln Tyr Pro Thr Met Met Pro Gln Tyr Gln Gln Ala Phe
164     530                 535                 540
165 Phe Gln Gln Gln Met Leu Ala Gln His Gln Pro Ser Gln Gln Gln Ala
166 545                 550                 555                 560
167 Ser Pro Glu Tyr Leu Thr Ser Pro Gln Glu Phe Ser Pro Ala Leu Val
168                 565                 570                 575
169 Ser Tyr Thr Ser Ser Leu Pro Ala Gln Val Gly Thr Ile Met Asp Ser
170             580                 585                 590
171 Ser Tyr Ser Ala Asn Arg Gln Val Phe Phe Gln Ser Val Ala Asp Lys
172         595                 600                 605
173 Glu Ala Ile Ala Asn Phe Thr Asn Gln Lys Asn Ile Ser Asn Pro Pro
174     610                 615                 620
175 Asp Met Ser Gly Trp Asn Pro Phe Gly Glu Asp Asn Phe Ser Lys Leu
176 625                 630                 635                 640
177 Thr Glu Glu Glu Leu Leu Asp Arg Glu Phe Asp Leu Leu Arg Ser Asn
178                 645                 650                 655
179 Arg Leu Glu Glu Arg Ala Ser Ser Asp Lys Asn Val Asp Ser Leu Ser
180             660                 665                 670
181 Ala Pro His Asn His Pro Pro Glu Asp Pro Phe Gly Ser Val Pro Phe
182         675                 680                 685
183 Ile Ser His Ser Gly Lys Gly Ser Pro Glu Lys Lys Ala Glu His Ser
184     690                 695                 700
185 Ser Ile Asn Gln Glu Asn Gly Thr Ala Asn Pro Ile Lys Asn Gly Lys
186 705                 710                 715                 720
187 Thr Ser Pro Ala Ser Lys Asp Gln Arg Thr Gly Lys Lys Thr Ser Val
188                 725                 730                 735
189 Gln Gly Gln Val Gln Lys Gly Asn Asp Glu Ser Glu Ser Asp Phe Glu
190             740                 745                 750
191 Ser Asp Pro Pro Ser Pro Lys Ser Ser Glu Glu Glu Glu Gln Asp Asp
192         755                 760                 765
193 Glu Glu Val Leu Gln Gly Glu Gln Gly Asp Phe Asn Asp Asp Asp Thr
194     770                 775                 780
195 Glu Pro Glu Asn Leu Gly His Arg Pro Leu Leu Met Asp Ser Glu Asp
196 785                 790                 795                 800
197 Glu Glu Glu Glu Glu Lys His Ser Ser Asp Ser Asp Tyr Glu Gln Ala
198                 805                 810                 815
199 Lys Ala Lys Tyr Ser Asp Met Ser Ser Val Tyr Arg Asp Arg Ser Gly
200             820                 825                 830
201 Ser Gly Pro Thr Gln Asp Leu Asn Thr Ile Leu Leu Thr Ser Ala Gln
202         835                 840                 845
203 Leu Ser Ser Asp Val Ala Val Glu Thr Pro Lys Gln Glu Phe Asp Val
204     850                 855                 860
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PATENT APPLICATION: US/10/509,422 TIME: 16:26:11

Input Set : A:\pto.amc.TXT
Output Set: N:\CRF4\10062004\J509422.raw

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207 Glu Lys Asn Glu Lys Asn Leu Pro Gln His Arg Phe Pro Ala Ala Gly
208                 885                 890                 895
209 Leu Glu Gln Glu Glu Phe Asp Val Phe Thr Lys Ala Pro Phe Ser Lys
210             900                 905                 910
211 Lys Val Asn Val Gln Glu Cys His Ala Val Gly Pro Glu Ala His Thr
212         915                 920                 925
213 Ile Pro Gly Tyr Pro Lys Ser Val Asp Val Phe Gly Ser Thr Pro Phe
214     930                 935                 940
215 Gln Pro Phe Leu Thr Ser Thr Ser Lys Ser Glu Ser Asn Glu Asp Leu
216 945                 950                 955                 960
217 Phe Gly Leu Val Pro Phe Asp Glu Ile Thr Gly Ser Gln Gln Gln Lys
218                 965                 970                 975
219 Val Lys Gln Arg Ser Leu Gln Lys Leu Ser Ser Arg Gln Arg Arg Thr
220             980                 985                 990
221 Lys Gln Asp Met Ser Lys Ser Asn Gly Lys Arg His His Gly Thr Pro
222         995                 1000                1005
223 Thr Ser Thr Lys Lys Thr Leu Lys Pro Thr Tyr Arg Thr Pro Glu Arg
224     1010                1015                1020
225 Ala Arg Arg His Lys Lys Val Gly Arg Arg Asp Ser Gln Ser Ser Asn
226 1025                1030                1035                1040
227 Glu Phe Leu Thr Ile Ser Asp Ser Lys Glu Asn Ile Ser Val Ala Leu
228                 1045                1050                1055
229 Thr Asp Gly Lys Asp Arg Gly Asn Val Leu Gln Pro Glu Glu Ser Leu
230             1060                1065                1070
231 Leu Asp Pro Phe Gly Ala Lys Pro Phe His Ser Pro Asp Leu Ser Trp
232         1075                1080                1085
233 His Pro Pro His Gln Gly Leu Ser Asp Ile Arg Ala Asp His Asn Thr
234     1090                1095                1100
235 Val Leu Pro Gly Arg Pro Arg Gln Asn Ser Leu His Gly Ser Phe His
236 1105                1110                1115                1120
237 Ser Ala Asp Val Leu Lys Met Asp Asp Phe Gly Ala Val Pro Phe Thr
238                 1125                1130                1135
239 Glu Leu Val Val Gln Ser Ile Thr Pro His Gln Ser Gln Gln Ser Gln
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253 gcccaagtcg gagggcggca gcggcggcgg agcggcgggt ggcggggctg gcggggccgg     180
254 ggccggggcc ggctgcggct ccggcggctc gtccgtgggg gtccgggtgt tcgcggtcgg     240
255 ccgccaccag gtcaccctgg aagagtcgct ggccgaaggt ggattctcca cagttttcct     300
256 cgtgcgtact cacggtggaa tccgatgtgc attgaagcga atgtatgtca ataacatgcc     360
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VERIFICATION SUMMARY DATE: 10/06/2004
PATENT APPLICATION: **US/10/509,422** TIME: 16:26:12

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L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date